EN

ODS series 750W Industrial / Railway
Sinewave inverter

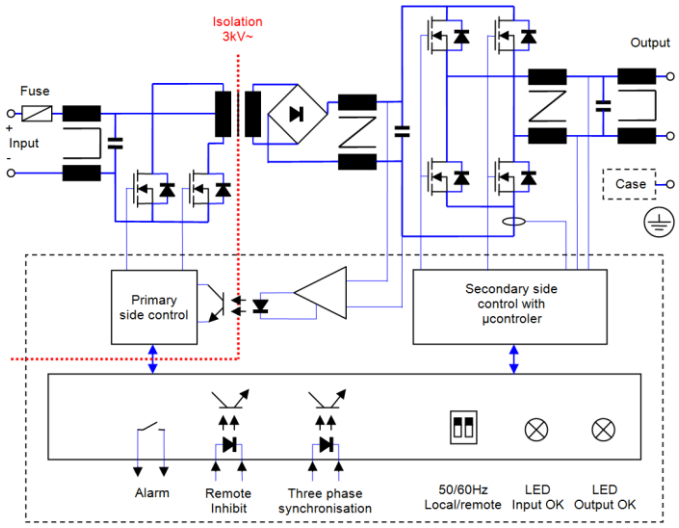
GENERAL FEATURES:

- Sine wave output voltage
- Selectable output frequency: 50/60Hz
- High input-output isolation 3000Vrms
- Three-phase synchronization
- Remote inhibit
- Input and output alarm
- Railway version EN50155
- Fire and smoke: EN45545-2 approved

RS Stock No.	Model	Vin nominal	Input voltage range	Output voltage	Active power	Apparent power	Output Current	Efficiency	No load input current Max. at Vinom
1447706	**ODS-750-7273-T**	**24 Vdc**	**16.8 … 30V**	**230 Vac**	**750 W**	**750 VA**	**3.26 A**	**86 %**	**0.46 A**
1447707	**ODS-750-7275-T**	**48 Vdc**	**33.6 … 60V**	**230 Vac**	**750 W**	**750 VA**	**3.26 A**	**88 %**	**0.27 A**
1447708	**ODS-750-7277-T**	**110 Vdc**	**77 … 138V**	**230 Vac**	**750 W**	**750 VA**	**3.26 A**	**89 %**	**0.12 A**

INPUT	
Input voltage range	See table
Maximum input ripple	5% Vin nom (Vrms, 100Hz)
OUTPUT	
Output voltage	120 / 230Vac sinusoidal
Load regulation	4%
Line regulation	0.4% @ ΔVin -20…+25%, 10% @ ΔVin -30…+25% (1% @ ΔVin -10…+25%, 10% @ ΔVin -20…+25%)(1)
Output frequency	50 / 60Hz ± 0.25Hz
Output wave distortion THD	< 2% (16 samples average)
Output voltage HF ripple	< 20Vpp
ENVIRONMENTAL	
Storage temperature	-40 … 85°C
Operating temperature full load	-25 … 55°C (-40 … 55°C) (3)
Operating temperature 50% load	-25 … 70°C (-40 … 70°C) (3)
Cooling	Variable speed internal fan
MTBF (MIL-HDBK-217-E; G_b, 25°C)	160.000 h
EMC	
Immunity according to	EN61000-6-2 / EN50121-3-2
Emissions according to	EN61000-6-3 / EN50121-3-2
SAFETY	
Safety according to	EN60950
Dielectric strength: Input /output	3000 Vrms / 50Hz / 1min
Dielectric strength: Output / ground	1500 Vrms / 50Hz / 1min
Dielectric strength: Input / ground	1500 Vrms / 50Hz / 1min
Fire and smoke	EN45545 approved
MECHANICAL	
Weight	1950 g
Dimensions	130 x 270 x 50mm
PROTECTIONS	
Against input over-currents	Internal fuse for 36, 48, 72, and 110V input models
Against output overloads < 10A	Linear
Against output overloads > 10A	Triggered
Against over-temperature	Shutdown with automatic recovery
CONTROL	
Remote inhibit input	OFF: applying 4...24 Vdc, Impedance >3k3Ω
Three-phase input synchronization	100...250 Vac, Impedance >35kΩ
Input and output alarm (OPTIONAL)	Isolated contact relay open when alarm (< 0.1A at 150Vcc)

Note (3): The unit can start up and work at an ambient temperature of -40°C with the following restriction: Do not actuate over the connectors below -25°C.



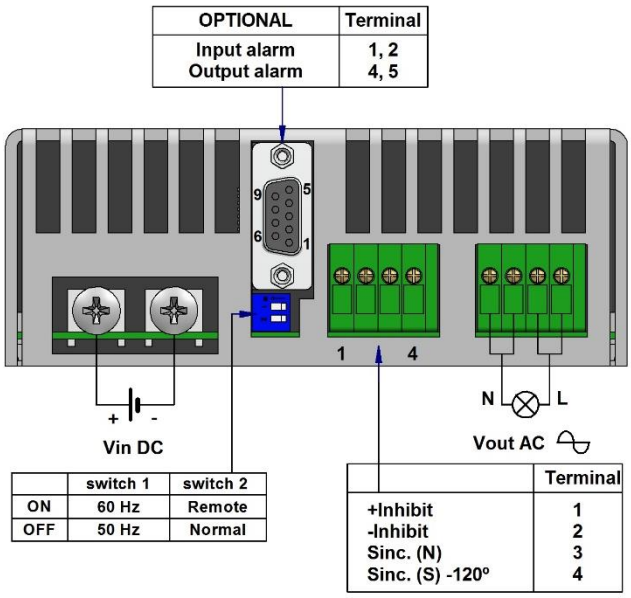
DESCRIPTION

The ODS-750 consists of sine-wave 120Vac or 230Vac output voltage DC-AC converters. The frequency can be set to 50Hz or 60 Hz, and input and output are galvanically isolated.

The ODS-750 inverters consist of two cascaded converters, one DC-DC generating an intermediate output voltage from the input voltage. That intermediate voltage is inverted to supply the output voltage and frequency by means of a second DC/AC converter.

The ODS-750 inverter is equipped with an input polarity protection by means of fuse. It also features maximum average power protection as well as maximum output peak current protection. This protects the semiconductors even when an output short-circuit occurs. It also features a disable function for input undervoltage, which protects the batteries from harmful discharges.

INSTALLATION



OPTIONAL	Terminal
Input alarm	1, 2
Output alarm	4, 5

	switch 1	switch 2
ON	60 Hz	Remote
OFF	50 Hz	Normal

	Terminal
+Inhibit	1
-Inhibit	2
Sinc. (N)	3
Sinc. (S) -120º	4

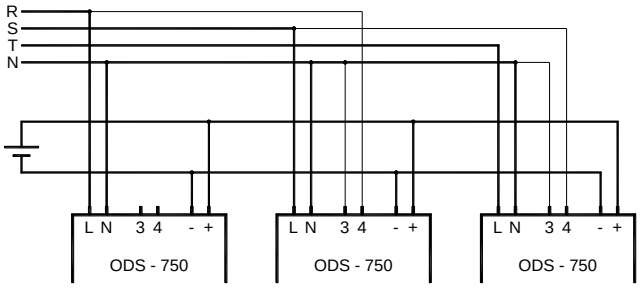
- The device includes 10 M3 threaded holes that allows different mounting positions.
- Make connections as shown in the table.
- The default output frequency is 50Hz. For 60Hz simply actuate the dip-switch as indicated in the figure.
- The inverter includes active overload protection but does not provide protection against prolonged reactive overload conditions. Therefore, the maximum power output (VA) should not be exceeded.
- The EMC output filter is connected to the case, which causes a leakage current lower than 1mA. In order to prevent any touch current, connect the case to earth by means of any mounting hole.

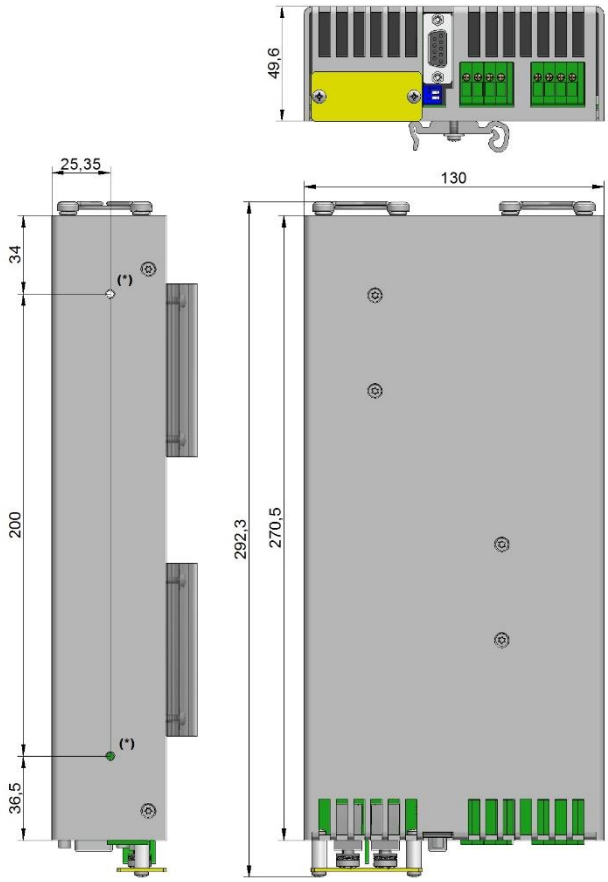
For safety reasons, the following requirements must be met:

- Provide the equipment with some kind of protective enclosure that complies with the electrical safety directives in effect within the country where the equipment is installed.
- Add an external fuse of 60A and 50A for the models of input voltage 12V and 24V respectively.
- Use cables of adequate cross-section to connect inputs and outputs. The following table lists the maximum currents and the minimum cross-sections for the cables used for each power connection.

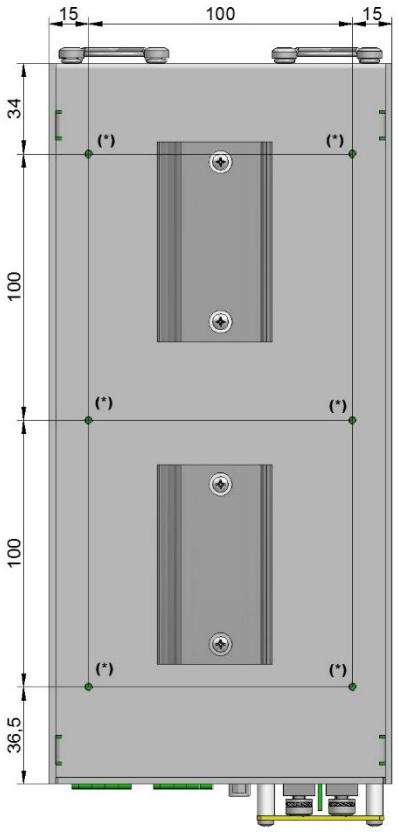
	Input 12Vcc	Input 24Vcc	Input 36Vcc	Input 48Vcc	Input 110Vcc	Output 120Vca	Output 230Vca
Max. current	60 A	50 A	33A	25 A	12 A	6.7 A	3.5 A
Cable section	**10 mm²**	**10 mm²**	**6 mm²**	**2.5 mm²**	**1.5 mm²**	**1 mm²**	**0.75 mm²**

Connections for a three phase system





Bottom view



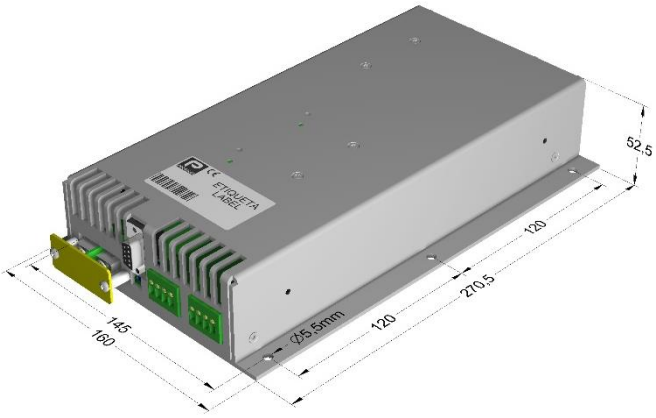
M3 threaded hole. Maximum screw depth: 3mm

ACCESSORIES	ORDERING CODE
DIN RAIL CLIP	NP-9135
Mounting base	NP-9265

NP-9135

Order 2 units per inverter

NP-9265



EU DECLARATION OF CONFORMITY

The undersigned, representing the following:
Manufacturer: PREMIUM, S. A.,
Address: C/. Dolors Aleu 19-21, 2º 2ª 08908 L'Hospitalet de Llobregat, SPAIN

herewith declares that the product:
Type: DC/AC Inverter

Models: **ODS-750- 7071 / 7073 / 7075 / 7076 / 7077 / 7081 / 7083 / 7085 / 7086 / 7087 / 7271 / 7273 / 7275 / 7276 / 7277 / 7281 / 7283 / 7285 / 7286 / 7087**

is in conformity with the provisions of the following EU directive(s):

2014/35/EU	Low voltage
2014/30/EU	Electromagnetic compatibility

and that standards and/or technical specifications referenced overleaf have been applied:

EN 60950: 2005	Safety (Information technology equipment)
EN 61000-6-3: 2007	Generic emission standard
EN 61000-6-2: 2005	Generic Immunity standard
EN 50155: 2007	Railway applications. Electronic equipment used on rolling stock material
EN 50121-3-2: 2015	Railway applications. EMC Rolling stock equipment
EN 50121-4: 2015	Railway applications. EMC of the signalling and telecommunications apparatus
RIA-12*	Protection of electronic equipment from transients & surges in DC Control Systems

* Optional see annex

marking year: **2006**

For the fulfillment of this declaration the product must be used only for the aim that has been conceived, considering the limitations established in the instructions manual or datasheet.

L'Hospitalet de Llobregat, 20-02-2017

Jordi Gazo

Managing Director

PREMIUM S.A. is an ISO9001 certified company by **Bureau Veritas**

ANNEX

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<tr><td>4.1.2</td><td>Ambient temperature</td><td>Class T1 column 2: (-25…55°C) load at 100%
Class T2 column 2: (-40…55°C) load at 100%
Class T3 column 2: (-25…70°C) load at 50%
Class TX column 2: (-40…70°C) load at 50%</td></tr>
<tr><td>4.1.3</td><td>Shocks and vibrations</td><td>According EN61373:1999 Category 1 class B</td></tr>
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<tr><td>5.1.1.1</td><td>Power supply voltage variations</td><td>From 0.70 to 1.25 Un continuous
From 0.60 to 1.40 Un 0.1s
From 1.25 to 1.40 Un 1s without damage</td></tr>
<tr><td>5.1.1.2</td><td>Power supply interruptions</td><td>Class S1 (without interruptions)</td></tr>
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<tr><td>5.1.3</td><td>Power supply switching</td><td>Class C1 (0.6 Un during 100ms without interruptions)</td></tr>
<tr><td>5.2</td><td>Power supply over-voltages</td><td>1.40 Un 1s (impedance 1 ohm)</td></tr>
<tr><td>5.5</td><td>EMC Electromagnetic Compatibility
EN50121-3-2:2015
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Internal freq. < 108MHz</td></tr>
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<tr><th>Test</th><th>Norm</th><th>Port</th><th>Severity</th><th>Conditions</th><th>P</th></tr>
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<tr><td rowspan="4">Radiated high-frequency</td><td rowspan="4">IEC61000-4-3</td><td rowspan="4">X/Y/Z Axis</td><td>20V/m</td><td>0.08…1.0GHz M. 80% 1kHz</td><td rowspan="4">A</td></tr>
<tr><td>10V/m</td><td>1.4…2.1GHz M. 80% 1kHz</td></tr>
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<tr><td rowspan="4">Fast transients</td><td rowspan="4">IEC61000-4-4</td><td>Input</td><td>±2kV</td><td>Tr/Th: 5/50 ns</td><td rowspan="4">A</td></tr>
<tr><td>Output</td><td>±2kV</td><td>Tr/Th: 5/50 ns</td></tr>
<tr><td>Signal</td><td>±2kV</td><td>Tr/Th: 5/50 ns</td></tr>
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<tr><td rowspan="2">Surge</td><td rowspan="2">IEC61000-4-5</td><td>Input L to L</td><td>±1kV</td><td>Tr/Th: 1.2/50µs</td><td rowspan="2">B</td></tr>
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<tr><td rowspan="4">Conducted RF</td><td rowspan="4">IEC61000-4-6</td><td>Input</td><td>10V</td><td>0.15...80MHz M. 80% 1kHz</td><td rowspan="4">A</td></tr>
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<tr><td>Signal</td><td>10V</td><td>0.15...80MHz M. 80% 1kHz</td></tr>
<tr><td>E</td><td>10V</td><td>0.15...80MHz M. 80% 1kHz</td></tr>
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<tr><td>Pulse magnetic field</td><td>IEC61000-4-9</td><td>X/Y/Z Axis</td><td>300A/m</td><td>Tr/Th: 6.4/16µs</td><td>B</td></tr>
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P= Performance criteria, L= Line, E= PE (Protective Earth)
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<tr><td>14 Low temperature storage</td><td>Type</td></tr>
</table>
</td></tr>
</table>

Applicable values for the different sections of the norm RIA12				
	Type of disturbance	**Voltage level**	**Duration**	**Source impedance**
5.2	Supply related surge	3.5 x Vin nom 1.5 x Vin nom	20 ms 1 s	0.2 Ω 0.2 Ω
5.3	Direct transient	800 V 1500 V 3000 V 4000 V 7000 V	100 µs 50 µs 5 µs 1 µs 0.1 µs	5 Ω 5 Ω 100 Ω 100 Ω 100 Ω